MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2016/2017

BSE3024 Security and E-Payment System

(All sections / Groups)

7 OCTOBER 2016
3.00 PM – 5.00 PM
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of **THREE (3)** printed pages including cover page.
2. Answer **ALL** questions in the answer booklet provided to you.
3. Marks are shown at the end of each question.

CASE STUDY AND ESSAY QUESTIONS (100 Marks)

There are TWO sections. Section A is case study. Section B is essay questions. Answer ALL questions in BOTH sections.

Section A : Case Study (Total: 40 marks)

Question 1

The CSI (Crime Scene Investigation) television shows have made "DNA Testing" a household phrase. Virtually everyone knows that a criminal who leaves body cells or fluids – hair and skin cells, saliva, blood, semen, and so on – at the scene of a crime can be linked to the crime through DNA analysis. (DNA, or deoxyribonucleic acid, is present in all living tissue – plant or animals.) Just as a criminal leaves DNA traces, cybercriminals are leaving ***digital footprints***. However, using computer forensics to track down cybercriminals requires sophisticated tools and methods.

Because technological advancement has been rapid, law enforcement has lagged behind cybercriminals, but is catching up. At the U.S. federal level, the Computer Crime and Intellectual Property Section within the Department of Justice is devoted to combating cybercrime. In addition, the FBI has created cyber squads in 56 field offices around the country specifically to investigate cybercrime, in addition to a cyber-division at the FBI headquarters. Each federal judicial district has at least one assistant U.S. attorney who has received special training in how to investigate and prosecute cybercrime. Every state now has a computer crime investigation unit available as a resource to local law enforcement agencies, and many municipal police departments have their own computer crime investigative units.

Software tools available to law enforcement agencies have improved greatly in recent years. Programs such as the Software Forensic Tool Kit provide police with the ability to search and re-create deleted files on computers. Also digitized for law enforcement use are criminal identification systems, such as the Statewide Network of Agency Photos (SNAP). Law enforcement officers can search SNAP's digital database for mug shots that show a criminal's distinguishing marks, such as scars and tattoos, making criminal identification simpler. Similarly, the Classification System for Serial Criminal Patterns, developed by the Chicago Police Department, allows detectives to look for possible patterns connecting crimes.

It is unfortunate that criminals use the Internet and other technologies to their advantage. Clearly, however, law enforcement is keeping pace with them; officers use technological advances to tract, arrest, and prosecute online and offline criminals.

Source: Valacich, S.J., & Schneider, C. (2016). Information Systems Today: Managing in the Digital World. 7th Ed., Pearson Education Limited, England. p. 427. Based on FBI Cyber Crime Divisio. (n.d.). Retrieved April 22, 2014, from http://www.fbi.gov/about-us/investgate/cyber. Justice Technology Information Network. (n.d.). Retrieved April 22, 2014, from https://www.justnet.org.

Answer the following questions:

a. Define Digital Footprints. How do cybercriminals leave digital footprints? (10 marks)

b. Describe the TWO (2) uses of security software tools in protecting organizations from cyber threats as discussed in the case. (10 marks)

c. Today, is it harder or easier to be a criminal? Why? (10 marks)

d. Do you think that law enforcement can get ahead of criminals technologically? Why? (10 marks)

(Total: 40 marks)

Section B: Essay Questions

Question 2

a. You have just been hired as a security consultant by Lazada.com, a privately owned Singaporean e-commerce, to make sure that the security of their e-commerce system is up to par. Outline the steps you will take to achieve this. (10 marks)

b. What is a digital certificate? How does it work? (10 marks)

(Total: 20 marks)

Question 3

a. Discuss any FIVE (5) methods of secure e-payment methods. (10 marks)

b. Discuss any FIVE (5) risks in electronic payment systems. (10 marks)

(Total: 20 marks)

Question 4

Despite having various payment methods, the Global State of Information Security® Survey 2016 by Price Water Cooper (PWC) found that this year, 57% of the participated respondents have adopted mobile payment systems.

a. How does mobile payment system works? (10 marks)

b. Describe the risk associated with mobile payment systems, if any (5 marks)

c. How do you think UBER utilizes this competitive technology for their ride-hailing service? (5 marks)

(Total: 20 marks)

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